

## **Remarks/Arguments**

The Office Action of December 3, 2004 and the references cited therein have been carefully studied and reviewed, and in view of the foregoing Amendment and following representations, reconsideration is respectfully requested.

The present invention relates to a reticle transfer system for transferring reticles used in a photolithographic process. Applicant's claims 1 and 4 each recite a reticle transfer system comprising a fork arm, and position sensors 31 located on the base ends of the tines 27a of the fork arm 27, respectively. Accordingly, the sensors 31 enable the detection of whether a reticle is positioned properly relative to the tines. In particular, the sensors 31 enable the detection of an abnormal position (ABNRM in FIG. 3) in which a reticle is spaced from the base ends of the tines.

### 1. The Rejection of Claims 1, 3, 4 and 6 as Being Unpatentable Over Foulke et al. (USP 6,690,993) in View of Holbrooks (USP 6,167,322)

The Examiner is correct in noting that Foulke et al. disclose a reticle transfer and storage system comprising a fork arm 70 having tines 72 (FIG. 5). However, the Examiner is incorrect in asserting that Foulke et al. also disclose "a plurality of position sensors (78) disposed on the fork arm".

Specifically, Foulke et al. disclose that the embodiment of FIG. 5 employs a camera 79 mounted to the fork arm. On the other hand, the "plurality of position

sensors (78) referred to by the Examiner are only used in **another embodiment** (col. 6, lines 54 – 56) in which the arm 70 is provided with mechanical grippers.

In either case, though, Foulke et al. fail to disclose main aspects of the present invention. With respect to the embodiment of FIG. 5 comprising a fork arm 70 having tines 72, the camera 79 mounted on the fork arm is different from Applicant's claimed plurality of position sensors 31 disposed on base ends of the tines of the fork arm, respectively (FIG. 3). With respect to the so-called other embodiment disclosed by Foulke et al. but not illustrated, a gripper comprising mechanical grippers is different from Applicant's claimed fork arm having tines. Also, the mere disclosure of position sensors 78 "employed" with such mechanical grippers does not at all correspond to Applicant's claimed position sensors 31 disposed on base ends of the tines of a fork arm. If anything, one could only assume such sensors 78 would be effective only if employed at the gripping mechanisms themselves, i.e., at the distal end of the effector.

The Examiner basically acknowledges such differences between the present invention and the disclosure of Foulke et al. but takes the position that Holbrooks teaches an embodiment of a fork arm in FIG. 9 "having sensors at the base ends of the tines". Also, in this respect, the Examiner directs Applicant's attention to col. 8, lines 25-27 and col. 9, lines 49-67. Based on this position, the Examiner concludes that it would have been obvious to have modified the embodiment of FIG. 5 of Foulke et al. by replacing the camera 79 with position sensors at the base ends of the tines 72 as taught by Holbrooks.

**The position of the Examiner is respectfully traversed because Holbrooks does not teach a fork arm having sensors at the base ends of the tines.**

First of all, it should be noted that the passages referred to by the Examiner in Holbrooks (i.e., col. 8, lines 25-27 and col. 9, lines 49-67) do not pertain to the embodiment of FIG. 9 relied on by the Examiner. Rather these passages relate to the embodiment of FIGS. 1 – 7 , as previously pointed out to the Examiner.

In the embodiment of FIGS. 1- 7 of Holbrooks, the wafer gripper comprises a paddle 100 having a single tine on which a gripping finger 105 is mounted. The positioning/locating **optics 107 are not disposed on this tine** but on a base of the paddle 100 from which the tine extends, so that the positioning/locating optics can sense the edge of the wafer (col.9, lines 49 – 56).

Thus, Holbrooks does not suggest providing positioning/sensing optics 107 on the base ends of the tines of the fork arm 3. At best, Holbrooks suggests providing positioning/sensing optics 107 on the base of the fork arm 3, i.e., at the portion of the fork arm analogous to that of the paddle 100. In this respect, Holbrooks teaches nothing different from the embodiment of FIG. 5 of Foulke et al.

In the embodiment of FIG. 9, though, i.e., in the embodiment of Holbrooks relied on by the Examiner, Holbrooks does not disclose any position sensors (col. 8, line 61 - col. 9, line 48). Given the chance to teach the location of positioning/sensing optics on a fork arm (embodiments of FIGS. 9 and 11), Holbrooks fails to do so. Thus, this portion of the Holbrooks disclosure fully supports Applicant's main contention

that there is no suggestion in Holbrooks of providing position sensors on the base ends of the tines of a fork arm.

In summary, then, both Foulke et al. and Holbrooks teach an embodiment of a fork arm comprising a base and tines. In Foulke et al., this embodiment is illustrated in FIG. 5 and described at col. 6, from line 45 to line 52. In Holbrooks, this embodiment is illustrated in FIG. 9 and described from col. 8, line 61 to col. 9, line 48. However, there are no teachings associated with either of these embodiments of position sensors **disposed on the base ends of the tines** of the fork arm, respectively. Accordingly, the references can not render Applicants' claims obvious.

2. The Rejection of Claims 1, 3, 4 and 6 as Being Unpatentable Over Nakahara et al. (USP 5,442,163) in View of Holbrooks (USP 6,167,322)

Nakahara et al. do teach a reticle transport and storage system comprising a fork arm 3, corresponding to that of Applicant's admitted prior art of FIG. 1. That is, the fork arm 3 comprises a base, and a plurality of tines extending from the base. However, as noted by the Examiner, Nakamura et al. do not teach position sensors disposed on the fork arm 3.

Concerning Holbrooks, similar comments to those made above apply. That is, Holbrooks does not teach a fork arm **having sensors at the base ends of the tines**. Accordingly, the references can not render Applicant's claims obvious under 35 USC 103 even when the references are considered in combination.

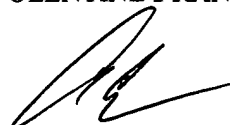
3. Response to Examiner's Comments Made in Paragraph 4 of the Office Action.

The Examiner mischaracterizes Applicant's argument made in the amendment filed September 17, 2004. Applicant did not merely argue that Holbrooks would fail to "equip a reticle transfer means with sensors". Rather, Applicant respectfully submitted that there were no teachings in Holbrooks of providing position sensors **on the base ends of tines** of a fork arm.

For these reasons, namely because of the differences between Applicant's invention, and the references, including the lack of suggestion in the references of a fork arm of a reticle transfer system wherein position sensors are disposed on the base ends of the tines of the fork arm, respectively, it is seen that the references do not render obvious the subject matter of Applicant's claims when the references are considered for what they actually suggest. Accordingly, early reconsideration and allowance of the claims are respectfully requested.

Respectfully submitted,

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